



Outline of Workshops

- **Workshop 1**

- Design, planning to get your cover crop up and growing

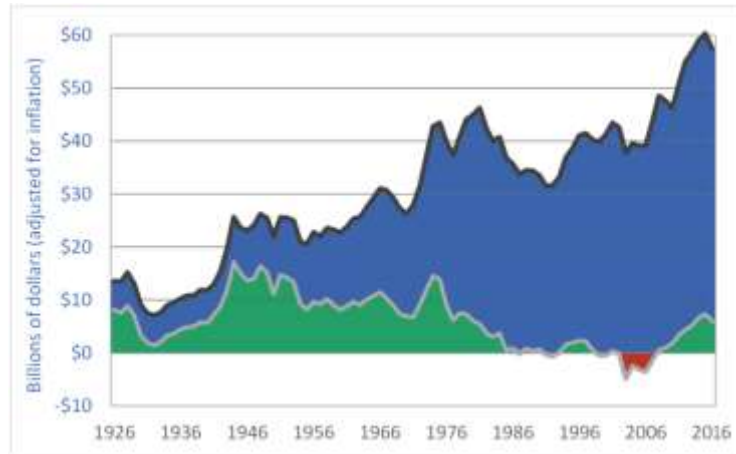
- **Workshop 2**

- Grazing, monitoring and harvesting your cover crop (Timing?)

- **Workshop 3**

- Summer cover crop, cash crops, profit from your cover crop

Canadian Net Farm Income



Canadian net farm income and gross revenue, inflation adjusted, net of government payments, 1926–2016. (Blue area – gross revenue Green area - net farm income)

<http://www.darrinqualman.com/canadian-net-farm-income/>

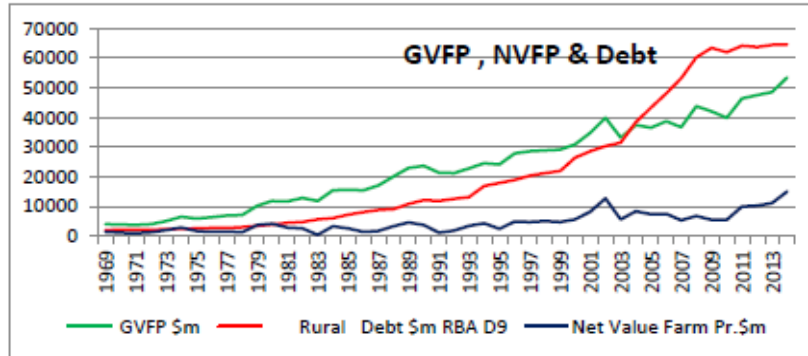
Canadian Net Farm Income

- Bringing these calculations up to date, in the 32-year period from 1985 to 2016, inclusive, agribusiness corporations captured 98 percent of farmers' revenues—\$1.32 trillion out of \$1.35 trillion in revenues.
- They have left Canadian taxpayers to backfill farm incomes (approximately \$100 billion have been transferred to farmers since 1985). And they have left farmers to borrow the rest (farm debt is at a record high—just under \$100 billion).

<http://www.darrinqualman.com/canadian-net-farm-income/>

Australian Net Farm Income

Chart 1



Compiled from: ABAREs commodity statistics Table 13, 2014

RBA online; Table D9, Rural Debt

GVFP – gross value farm production
NVFP – net value farm production

Source: Ben Rees, Australian Agriculture: the real story, 2015

How did this happen

“They called me a greenie at school” – Lucy Hand

BARRIERS	TOOLS
Lack of Motivation	Commitment Norms Incentives
Forget to Act	Prompts
Lack of Social Pressure	Norms
Lack of Knowledge	Communication Social Diffusion
Structural Barriers	Convenience

Source: www.CBSM.com

Underestimating Risk

-farm viability depends more on minimising losses than maximising production, and it is these accumulated losses which threaten farm business survival and growth".

Dr Tim Hutchings

CSIRO PUBLISHING

Animal Production Science, 2012, 52, 557–565
<http://dx.doi.org/10.1071/AN11291>

The impact of system changes to a dairy farm in south-west
 Victoria: risk and increasing profitability

J. W. Heard^{A,F}, C. M. Leddin^B, D. P. Armstrong^{C,E}, C. K. M. Ho^D, K. A. Tarrant^C,
 B. Malcolm^D and W. J. Wales^C

...Irrespective of the direction of change in herd size, the most profitable options involved reducing stocking rate per hectare and reducing purchased supplementary feed compared with the status quo...

Three ways to improve profit

Burke Teichert

• Increase turnover:

- This can relate to volume or size of business or to the turnover of saleable assets with the current business size.

• Decrease overheads:

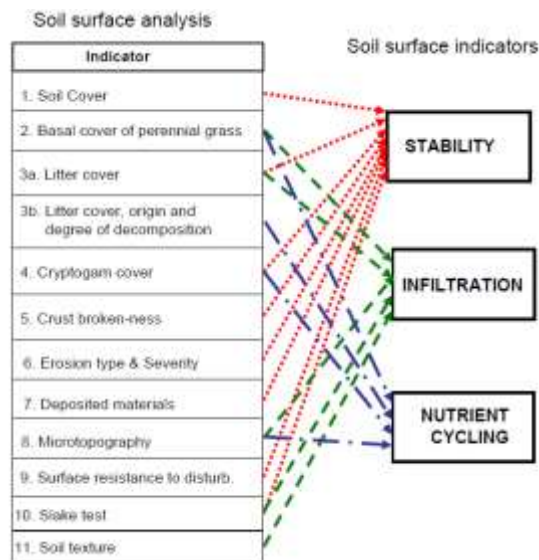
- Land with attached fences, corrals, buildings, etc. and people along with the tools and equipment used to do their work.

• Improve gross margin:

- That's total returns minus direct costs for the enterprise. The direct costs are those that vary with the number of cattle. They are typically feed, vet services and meds, sales commissions, trucking and livestock handling supplies.

Source: <http://www.beefmagazine.com/management/how-ranch-simply-yet-successfully>

Landscape Function



David Tongway http://members.iinet.net.au/~ifa_procedures/

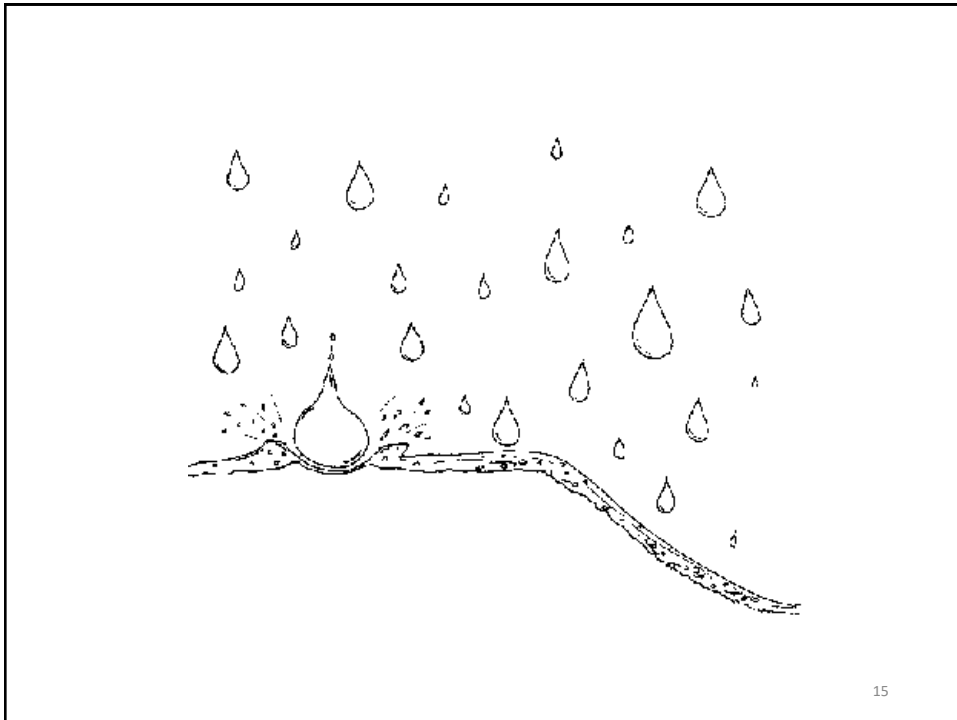


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Source: Greg Antonoff Vic DPI east of Horsham. February 2007.

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Large raindrops hit bare soil like bombs,
causing erosion

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Photo Graeme Hand

17



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Landscape Function



Fall Seeded Biennials



Source Gabe Brown, Browns Ranch

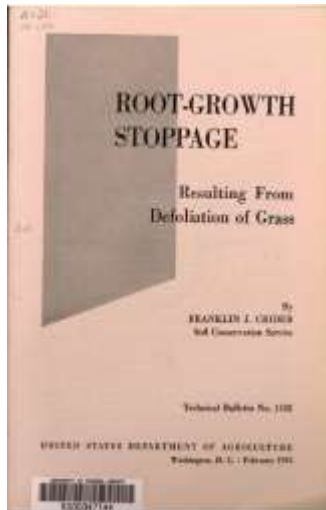
High Landscape Function Banana



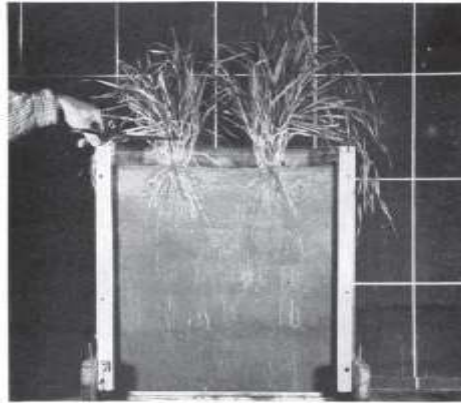
Landscape Function analyser



Research - dominant view



8 TECHNICAL BULLETIN 1102, U. S. DEPT. OF AGRICULTURE



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ROOT GROWTH STOPPAGE RESULTING FROM GRASS DEFOLIATION 19



FIGURE 11.—Root masses of Rhodes grass removed from 4-inch pots 33 days after single clippings to different levels. Left to right, none (control), 10, 20, 30, 40, 50, 60, 70, 80, and 90 percent of the top of the plant has been clipped off. Two days before clipping the roots had been blackened. The white roots are new growth.

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Grass Productivity

Andre Voisin

"To what height should grass be grazed?" Page 56

.....The logical idea is therefore not to graze the sward too closely so that the plant will be left with sufficient green surface, the chlorophyll of which will be able, right from the start, to carry out its work of synthesis and immediately aid regrowth. In this way the duration of the initial period of slow regrowth is reduced. From the plant physiology point of view one might say that the low level part of the S curve is reduced.

Unfortunately we see here again perfectly sound, theoretical and scientific considerations running foul of practical obstacles which could not be foreseen a priori.

Cows (or animals in general) have the habit of first grazing down the parts they prefer before going on to the herbage they like less."

Agenda

1. Our story
2. Common problems caused by grazing height
3. Complexity
4. Research – dominant view
5. Research – alternative view
6. Coaching programme
7. Q&A

Grass Productivity

Andre Voisin

“To what height should grass be grazed?” Page 56

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J. Range Manage.
46:118-121, March 1993

Effects of short duration and high-intensity, low-frequency grazing systems on forage production and composition

C.A. TAYLOR JR., T.D. BROOKS, AND N.E. GARZA

Authors are experiment station superintendent, Texas Agricultural Experiment Station, P.O. Box 918, Sonora, Tex. 76950; research associate, Texas Agricultural Experiment Station; research associate, Texas Agricultural Experiment Station.

for year 4. Our data indicate the SDG system did not promote secondary succession from shortgrasses to midgrasses as effectively as did the HILF system.

Selective Grazing

One of a few severely grazed perennial grass plants among millions of plants after one horse had grazed for one hour in a paddock.

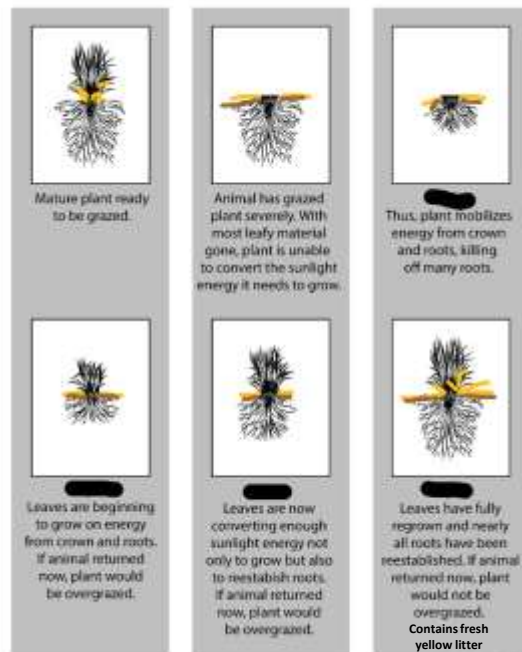
Savory, Allan. Holistic Management, Third Edition: A Commonsense Revolution to Restore Our Environment. Island Press. Kindle Edition.



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To be safe, we assume that the grazing has been severe, because some plants are always grazed severely, and thus we focus on plant growth rate.

Savory, Allan. Holistic Management, Third Edition: A Commonsense Revolution to Restore Our Environment (p. 334). Island Press. Kindle Edition.



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Man, Cattle and Veld

Johann Ziestman

- Such information is as useless as.....
the recommendation that grass should not be defoliated close to the ground as such grass takes longer to recover. The latter information may be of value one day when cattle have been taught to graze at an even height (Page 34).

Long Recovery/ high utilisation

“Moving animals on gut fill”

Positives

1. Lower rainfall risk - increasing \$profit\$
2. Quickly increases landscape function especially stability nutrient cycling and water infiltration
3. Increase in better perennial grasses

Negatives

1. Slower perennial grass recovery
2. Requires low energy animal phenotypes?
3. Only suits breeding focus?

Rule of thumb

When in doubt:

- 1. Reduce stocking rate**
- 2. Increase perennial grass recovery**
- 3. Increase stock density**

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How will you know if it was worthwhile - records

- Grazing days
- Increase in landscape function - photos
- Soil health
- Harvest
- Lower the cost of next crop



Multi Species Cover Cropping

Graeme Hand
Col Seis

